UNITED
NATIONS

ST

Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/1997/40
25 April 1997

Original: ENGLISH

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Thirteenth session,
Geneva, 7-17 July 1997,
agenda item (3 (b))

DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Use of packagings and IBCs

Packing of articles of Classes 2 to 6, 8 and 9

Transmitted by the Expert of the United Kingdom

Background:

At the nineteenth session of the Committee of Experts (2-11 December 1997), the expert of the United Kingdom proposed in document, ST/SG/AC.10/R.519, that more specific packing requirements be included in the UN Recommendations in order to achieve a greater degree of harmonization between the packing requirements for individual modes of transport. The Committee agreed to this proposal in principle and to the development of a comprehensive document in this biennium.

Proposal:

The expert of the United Kingdom now proposes the following packing instructions for articles in class order for inclusion in Chapter 4.1.4 of the eleventh version of the reformatted UN Recommendations.

This document is intended to open discussions rather than to be seen as a definitive statement on the subject. The expert from the United Kingdom will consider carefully all of the comments that are made by the Sub-Committee at this session with a view to submitting formal proposals in December.

LIST OF ARTICLES BY UN NUMBER AND PACKING INSTRUCTIONS

UN	CLASS	PG	NEW P1		COMMENTS
1044	2	-	Class 2		
1057	2	-	204		
1324	4.1	III	404		
1331	4.1	III	405		
1700	6.1	II	P002		
1774	8	II	P001		
1944	4.1	III	405		
1945	4.1	III	405		
1950	2	-	Class 2		
2016	6.1	II	Class 6.1	Delete PG	
2017	6.1	II	Class 6.1	Delete PG	
2028	8	II	Class 8	Delete PG	
2037	2	-	Class 2		
2254	4.1	III	405		
2623	4.1	III	P002		
2794	8	III		Delete PG	ADD1 Battery
2795	8	III		Delete PG	ADD1 Battery
2800	8	III		Delete PG	ADD1 Battery
2807	9	III	Class 9		
2857	2	-	Class 2	Delete PG	
2870	4.2	I	P400		ADD1 New note required
2990	9	-	Class 2	Delete PG	
3028	8	III		Delete PG	ADD1 Battery
3072	9	-		Delete PG	ADD1 Lifesaving app.
3090	9	II	905		
3091	9	II	905		
3150	2	-	Class 2		
3164	2	-	Class 2		
3165	3	I	P302		
3166	9	-	-		Air Only No proposal
3171	9	-	-		Air Only No proposal
3268	9	III	908		
3270	4.1	II	P002		
3292	4.3	II	P002		
3316	9	-	Class 9		

PACKING INSTRUCTIONS

CLASS 2

UN 1057

P204	PACKING INSTRUCTION	P204

This packing instruction applies to Lighters or lighter refills (cigarettes), containing flammable gas. The general packing provisions of 4.1.1 shall be met. Packagings need not comply with the testing and marking requirements of Chapter 6.1. Lighters and lighter refills charged with a flammable gas shall comply with the following requirements:

(1) The devices shall be constructed with safety features to prevent inadvertent discharge during transport.

(2) The liquid portion of the gas shall not exceed 85% of the volumetric capacity of each fluid chamber at 15 °C;

(3) Each device, including closures, shall be capable of withstanding without leakage or rupture an internal pressure of at least two times the vapor pressure of the fuel at 55 °C and

(4) The valve mechanisms and ignition devices should be securely sealed, taped or otherwise fastened or designed to prevent operation or leakage of the contents during transport.

(5) Devices shall be overpacked in packaging that is designed or arranged to prevent movement of the device itself.

(6) The articles shall be placed in strong outer packagings.

Delete SP229
Delete SP201

UN 1044, UN 1950, UN 2857, UN 2990, UN 3150, UN 3164

PACKING INSTRUCTION (Class 2)

The general packing provisions of 4.1.1 shall be met. Packagings need not comply with the requirements of Chapter 6.1.

Aerosols should be provided with protection against inadvertent discharge.

Delete SP229.
Delete PG for 2857 and 2990.
In SP190 delete penultimate sentence.

CLASS 3

UN 3165

P302	PACKING INSTRUCTION	P302

Aircraft hydraulic power unit fuel tanks shall consist of:

(a) An aluminium pressure vessel made from tubing and having welded heads. Primary containment of the fuel within this vessel shall consist of a welded aluminium bladder having a maximum internal volume of 46L. The outer vessel shall have a minimum design gauge pressure of 1,275 kPa and a minimum burst gauge pressure of 2,755 kPa. Each vessel shall be leak checked during manufacture and before shipment and shall be found leakproof. The complete inner unit shall be securely packed in non-combustible cushioning material, such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings. Maximum quantity of fuel per unit and package is 42L; or

(b) An aluminium pressure vessel. Primary containment of the fuel within this vessel shall consist of a welded hermetically sealed fuel compartment with an elastomeric bladder having a maximum internal volume of 46L. The pressure vessel shall have a minimum design gauge pressure of 5,170 kPa. Each vessel shall be leak-checked during manufacture and before shipment and shall be securely packed in non-combustible cushioning material such as vermiculite, in a strong outer tightly closed metal packaging which will adequately protect all fittings. Maximum quantity of fuel per unit and package is 42L.

CLASS 4

UN 1324

P404	PACKING INSTRUCTION	P404

This packing instruction applies to nitrocellulose film. The general provisions of 4.1.1 shall be met. Packagings shall conform to the requirements of Chapter 6.1 at the Packing Group III performance level. The maximum net mass limits specified in section 6.1.4 shall not be exceeded.

UN 1331 UN 1944 UN 1945 UN 1254

P405	PACKING INSTRUCTION	P405

This packing instruction applies to matches. The general packing provisions of 4.1.1 shall be met. Packagings shall conform to the requirements of Chapter 6.1 at the Packing Group III performance level. The maximum net mass limits specified in section 6.1.4 shall not be exceeded unless otherwise specified.

Safety matches and wax "Vesta" matches shall be tightly packed in securely closed inner packagings to prevent accidental ignition under conditions normally incident to transportation, and further packed in outer fibreboard, wooden, or other equivalent-type packagings. These matches in outer packagings not exceeding 25kg gross mass are not subject to any other requirement (except marking) of this subchapter. These matches may be packed in the same outer packaging with materials not subject to this subchapter.

Strike-anywhere matches shall not be packed in the same outer packaging with any material other than safety matches or wax "Vesta" matches, which shall be packed in separate inner packagings.

Add new SPXXXX:

Definitions

(1) "Fusee matches" are matches the heads of which are prepared with a friction-sensitive igniter composition and a pyrotechnic composition which burns with little or no flame, but with intense heat.

(2) Safety matches are matches combined with or attached to the box, book or card that can be ignited by friction only on a prepared surface.

(3) Strike anywhere matches are matches that can be ignited by friction on a solid surface.

(4) Wax "Vesta" matches are matches that can be ignited by friction either on a prepared surface or on a solid surface.

CLASS 5 NO ARTICLES

CLASS 6

UN 2016, UN 2017

PACKING INSTRUCTION (Class 6.1)

The general packing provisions of 4.1.1 shall be met. Packagings need not comply with the requirements of Chapter 6.1.

CLASS 8

UN 2028

PACKING INSTRUCTION (Class 8)
The general packing provisions of 4.1.1 shall be met. Packagings need not comply with the requirements of Chapter 6.1.

Delete PG for 2028.

UN 2794, UN 2795
UN 3028

PACKING INSTRUCTION (Class 8)
The general packing provisions of 4.1.1 shall be met. Packagings shall conform to the requirements of Chapter 6.1 at the Packing Group III performance level. The maximum net mass limits specified in section 6.1.4 shall not be exceeded. Batteries must be protected against short circuits. In addition batteries may be carried on pallets. The batteries: (1) Shall be stacked and adequately secured in tiers separated by a layer of non-conductive material; (2) Shall be isolated in such a manner as to prevent short circuits. (3) Need not be individually marked and labelled if the pallet bears the appropriate mark and label. Terminals shall not, in any case, support the weight of other superimposed elements.

UN 2800

PACKING INSTRUCTION (Class 8)
The general packing provisions of 4.1.1 shall be met. Packagings need not comply with the requirements of Chapter 6.1. Stronger outer packagings shall be used. Batteries must be protected against short circuit.

CLASS 9

UN 2807, UN 3171, UN 3166

PACKING INSTRUCTION (Class 9) (A)
-   Packaging to meet ICAO TI requirements.

Delete PGIII

UN 3072

PACKING INSTRUCTION (Class 9)
Life-saving appliances shall be packed in strong outer packagings. Such articles may contain: (1) Division 2.2 compressed gases.   (2) Signal devices (Class 1) which may include smoke and illumination signal flares; signal devices must be packed in plastic or fibreboard inner packagings.   (3) Electric storage batteries.   (4) First aid kits.   (5) Strike anywhere matches.

UN 3316

PACKING INSTRUCTION (Class 9) (B)
The general packing provisions of 4.1.1 shall be met. The packagings shall meet the requirements of Chapter 6.1 appropriate to the packing group assigned to the kit as a whole.

Delete SP251 penultimate paragraph.

UN 3090 UN 3091

P905	PACKING INSTRUCTION	P905

This packing instruction applies to lithium batteries and cells and lithium batteries and cells contained in equipment. The general packing provisions of 4.1.1 shall be met. Each packaging shall conform the requirements of Chapter 6.1 at the Packing Group II performance level.

Lithium cells and batteries may be transported under this entry if they meet the following provisions:

(a) Each cell or battery type has been determined to meet the criteria for assignment to Class 9 on the basis of tests carried out in accordance with the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part III, sub-section 38.3;

(b) Each cell contains not more than 12g of lithium or lithium alloy;

(c) Each battery contains not more than 500g of lithium or lithium alloy;

(d) Each cell and battery incorporates a safety venting device or is designed to preclude a violent rupture under conditions normally incident to transport;

(e) Each cell and battery is equipped with an effective means of preventing external short circuits;

(f) Each battery containing cells or series of cells connected in parallel is equipped with diodes to prevent reverse current flow;

(g) Cells and batteries are packed in inner packagings to effectively prevent short circuits and to prevent movement which could lead to short circuits.

Delete SP230.

UN 3268

P908	PACKING INSTRUCTION	P908

This packing instruction applies to air bag inflators, air bag modules or seat-belt pretensioners. The general packing provisions of 4.1.1 shall be met. Packagings shall conform to the requirements of Chapter 6.1 at the Packing Group III performance level. The maximum net mass limits specified in section 6.1.4 shall not be exceeded unless otherwise specified.

Air bag inflators or modules or seat belts pretensioners may be carried unpackaged in dedicated handling devices, vehicles, containers or wagons when moved from where they are manufactured to an assembly plant.

SP235 delete penultimate sentence.

UNITED NATIONS **ST**

Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/1997/40/Corr.1
16 June 1997

ENGLISH ONLY

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Sub-Committee of Experts on the Transport of Dangerous Goods
(Thirteenth session,
Geneva, 7-17 July 1997,
agenda item (3 (b))

DRAFT AMENDMENTS TO THE MODEL REGULATIONS ON THE TRANSPORT OF DANGEROUS GOODS

Use of packagings and IBCs

Packing of articles of Classes 2 to 6, 8 and 9

Corrigendum

Transmitted by the Expert of the United Kingdom

The following corrections should be made to document ST/SG/AC.10/C.3/1997/40:

List of Articles by UN Number and Packing Instructions : delete.

Packing instruction (Class 2) : This instruction should apply also to UN 3353 and UN 3356.

Packing instruction P905: Delete the following:

"Lithium cells and batteries may be transported under this entry if they meet the following provisions:

(a) Each cell or battery type has been determined to meet the criteria for assignment to Class 9 on the basis of tests carried out in accordance with the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part III, sub-section 38.3.

(b) Each cell contains not more than 12g of lithium or lithium alloy;

(c) Each battery contains not more than 500g of lithium or lithium alloy;

(d) Each cell and battery incorporates a safety venting device or is designed to preclude a violent rupture under conditions normally incident to transport;

(e) Each cell and battery is equipped with an effective means of preventing external short circuits;

(f) Each battery containing cells or series of cells connected in parallel is equipped with diodes to prevent reverse current flow;

(g) Cells and batteries are packed in inner packagings to effectively prevent short circuits and to prevent movement which could lead to short circuits.

Delete SP230."

UNITED NATIONS

ST

Secretariat

Distr.
GENERAL

ST/SG/AC.10/C.3/1997/41
25 April 1997

Original : ENGLISH

COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS
Sub-Committee of Experts on the Transport of Dangerous Goods
(Thirteenth session, Geneva, 7-17 July 1997, agenda item 3 (c))

PACKAGINGS AND INTERMEDIATE BULK CONTAINERS

MARKING OF METAL DRUMS

Transmitted by the International Confederation of Drum Reconditioners (ICDR)

Background. At the seventeenth session of the Committee of Experts, revisions to the marking requirements for new steel drums were adopted. The proposals for these changes had been developed by the ICDR in conjunction with new drum manufacturers, reconditioners, remanufacturers, and users of this packaging.

Problem. It is clear from the original proposals to change 9.5.2 through adoption of 9.5.2.1 and 9.5.2.2, as well as from discussions of these proposals at several Sub-Committee and Committee sessions, that every metal drum having a capacity greater than 100 litres is to be marked permanently (e.g., embossed) with "first line" information describing the original performance capability of the drum with the nominal thickness of the metal used in construction of that drum. The rationale for this provision is that virtually all metal drums of this size will be reprocessed through reuse, remanufacturing or reconditioning, and the permanent original performance information is essential to facilitate and to assure transport safety following such reprocessing. This was addressed explicitly in the fifth proposal of the ICDR paper at the Fourth Session of the Sub-Committee (ST/SG/AC.10/C.3/R.173), and in the oral introduction of that paper by ICDR's Chairman on July 9, 1991.

In practice, however, persons who are not familiar with these earlier discussions have expressed confusion, appearing to think that the new drum manufacturer still is obligated to determine whether large metal drums are "liable to be reconditioned." A primary purpose of the changes in 9.5.2.1 and 9.5.2.2 was to relieve the original manufacturer from having to make such a determination. The determination in 9.5.2 still is applicable to other packaging types and for metal drums having a capacity of less than 100 litres, but it is inapplicable to metal drums having a capacity greater than 100 litres.

Proposal. To allay further confusion, insert at the beginning of 9.5.2:

"Except as provided in 9.5.2.1 and 9.5.2.2, . . ."